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APPLICANT : RICOH CO LTD;

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TITLE : OPTICAL RECORDING MEDIUM

ABSTRACT : PROBLEM TO BE SOLVED: To improve the repetitive performance of recording, reproducing and erasing and recording sensitivity of an optical recording medium by providing a phase transition type optical recording medium formed by successively laminating the lower heat resistant dielectric layer, recording layer, upper heat resistant protective layer, reflection radiation layer and environmental protective layer on a substrate having guide grooves wherein the lower heat resistant dielectric layer and upper heat resistant protective layer are consisting of Zn, Si, S and O elements.

SOLUTION: This phase transition type optical recording medium is formed by successively laminating the lower heat resistant dielectric layer, the recording layer, the upper heat resistant protective layer and the reflection radiation layer on the grooved polycarbonate substrate by a sputtering method. An Al alloy is used for the reflection radiation layer of such medium, $\text{Ag}_{51}\text{In}_{10}\text{Sb}_{47}\text{Te}_{38}$ (at.%) for the recording layer and a compd. of $(\text{ZnS})_{\alpha}(\text{ZnO})_{\beta}(\text{SiO}_2)_{\gamma}$ for the lower and upper heat resistant protective layers. In such a case, α , β and γ are specified within ranges of $30 \leq \alpha \leq 90$, $5 \leq \beta \leq 50$ and $5 \leq \gamma \leq 30$ (mol.%) and the relation $\alpha + \beta + \gamma = 100$ is set. As a result, the overwriting repetitive characteristic from a low linear speed to a high linear speed is improved.

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